

In addition, if the drive unit 20 is stopped and the door 16 is attempted to be opened, in other words it is forced upward as shown in FIG. 2, the cable 26 becomes slack allowing the cable arm to pivot outwardly, as shown in FIG. 2, sufficiently so that it engages the stop 36, more specifically a stop lip 150 thereof. The stop 36 also includes a base wall 152 and a pair of sidewalls 154 and 156 for providing strength so that the stop lip 150 is not deformed by being brought into compressional engagement with the movable arm 84. In addition, since the movable arm 84 is substantially trough shaped with sidewalls 98 and 100 providing strength to the base wall 96, the compressional engagement will not tend to crush the arm and will prevent the door 16 from rising farther.

Thus, what has been provided is a mechanical device for providing security for a garage door by preventing the garage door from being inadvertently opened while also preventing cable from being accidentally payed off the drums 24 and 26 which would necessitate an expensive repair call.

While there has been illustrated and described a particular embodiment of the present invention, it will be appreciated that numerous changes and modifications will occur to those skilled in the art, and it is intended in the appended claims to cover all those changes and modifications which fall within the true spirit and scope of the present invention.

What is claimed is:

1. A jack shaft garage door operator for opening and closing a movable garage door, comprising:
 - a drive unit;
 - a jack shaft coupled to the drive unit to be turned thereby;
 - a pull-up cable drum connected to the jack shaft to be driven thereby;
 - a pull-up cable for connection to a movable garage door and connected to the pull-up cable drum to be raised and lowered thereby;
 - a pivotable arm mounted in proximity with the jack shaft and engaging the pull-up cable, said pivotable arm including a member for engaging the pull-up cable and holding it in tension, and means for engaging the jack shaft to prevent further jack shaft rotation when the pull-up cable becomes slack; and
 - means for preventing the garage door from opening adapted for engagement by the pivotable arm when the garage door is lifted without the drive unit operating.
2. A jack shaft garage door operator for opening and closing a movable garage door according to claim 1 wherein the means for engaging the jack shaft comprises a cross bar.
3. A jack shaft garage door operator for opening and closing a garage door according to claim 1 wherein the means for preventing the garage door from opening comprises a door lock bracket that engages the pivotable arm.
4. A jack shaft garage door operator for opening and closing a garage door according to claim 1 further comprising a shaft lock hub mounted on the jack shaft and rotatable therewith, the shaft lock hub being engaged by the pivotable arm when the cable tension drops.

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5. A jack shaft garage door operator for opening and closing a movable garage door, comprising:
a drive unit;
a jack shaft coupled to the drive unit to be turned thereby;
a pull-up cable drum connected to the jack shaft to be driven thereby;
a pull-up cable for connection to a movable garage door and connected to the pull-up cable drum to be raised and lowered thereby;
a pivotable arm mounted in proximity with the jack shaft and engaging the pull-up cable, said pivotable arm including a member for engaging the pull-up cable and holding it in tension; and
stop apparatus for inhibiting the garage door from opening adapted for engagement by the pivotable arm when the garage door is lifted.

6. A jack shaft garage door operator for opening and closing a movable garage door according to claim 5 wherein the pivotable arm comprises engagement apparatus for engaging the jack shaft to prevent further jack shaft rotation when the pull-up cable becomes slack.

7. A jack shaft garage door operator for opening and closing a movable garage door according to claim 6 wherein the engagement apparatus comprises a cross bar.

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8. A jack shaft garage door operator for opening and closing a garage door according to claim 5 wherein the stop apparatus comprises a door lock bracket that engages the pivotable arm.

9. A jack shaft garage door operator for opening and closing a garage door according to claim 5 further comprising a shaft lock hub mounted on the jack shaft and rotatable therewith, the shaft lock hub being engaged by the pivotable arm when the cable tension drops.

10. A jack shaft garage door operator for opening and closing a movable garage door, comprising:
a drive unit;
a jack shaft coupled to the drive unit to be turned thereby;
a pull-up cable drum connected to the jack shaft to be driven thereby;
a pull-up cable for connection to a movable garage door and to the pull-up cable drum for raising and lowering the door by tension in the pull-up cable; and
a mechanical device responsive to tension in the pull-up cable for inhibiting the garage door from being opened and for preventing cable from being payed off the drum without the drive unit operating.

11. A jack shaft garage door operator for opening and closing a movable garage door according to claim 10 wherein the mechanical device comprises a pivotable arm mounted in proximity with the jack shaft and engaging the pull-up cable.

12. A jack shaft garage door operator for opening and closing a movable garage door according to claim 10 further comprising stop apparatus for engagement by the pivotable arm when the garage door is lifted.

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13. A jack shaft garage door operator for opening and closing a movable garage door according to claim 11 wherein the pivotable arm comprises engagement apparatus for engaging the jack shaft to prevent further jack shaft rotation when the pull-up cable becomes slack.

14. A jack shaft garage door operator for opening and closing a movable garage door according to claim 13 wherein the engagement apparatus comprises a cross bar.

15. A jack shaft garage door operator for opening and closing a garage door according to claim 12 wherein the stop apparatus comprises a door lock bracket that engages the pivotable arm.

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16. A jack shaft garage door operator for opening and closing a garage door according to claim 10 further comprising a shaft lock hub mounted on the jack shaft and rotatable therewith, the shaft lock hub being engaged by the mechanical device when the cable tension drops.

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